

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Sei TSUNODA, et al.

SERIAL NO: NEW APPLICATION

GAU:

FILED: HEREWITH

EXAMINER:

FOR: LOW DIELECTRIC CONSTANT MATERIAL HAVING THERMAL RESISTANCE, INSULATION FILM BETWEEN SEMICONDUCTOR LAYERS USING THE SAME, AND SEMICONDUCTOR DEVICE

#4

INFORMATION DISCLOSURE/RELATED CASE STATEMENT UNDER 37 CFR 1.97

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

Applicant(s) wish to disclose the following information.

1c857 U.S. PTO  
09/19/2626  
08/31/01

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: Sei TSUNODA, et al.

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FOR: LOW DIELECTRIC CONSTANT MATERIAL HAVING THERMAL RESISTANCE,  
INSULATION FILM BETWEEN SEMICONDUCTOR LAYERS USING THE SAME, AND  
SEMICONDUCTOR DEVICE

**STATEMENT OF RELEVANCY**

**Reference AAA on PTO-1449**

This publication disclosed a method for forming an insulation film between layers by using a parylene deposit film or a polyimide film wherein a fluorine atom is incorporated. The publication is cited in the present specification.

However, the publication did not disclose the low dielectric constant film having thermal resistance comprising boron, nitrogen, and hydrogen.

**Reference AAB on PTO-1449**

This publication disclosed a method for preparing a borazine polymer. The publication is cited in the present specification.

However, the publication did not disclose a low dielectric constant material having thermal resistance, comprising borazine skeletal molecules in an inorganic or organic material molecule.

Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 213480US0		SERIAL NO. NEW APPLICATION	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Sei TSUNODA, et al.			
				FILING DATE HEREWITH		GROUP	
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	AAA	Hideki SHIBATA, "LOW-k INTERLAYER DIELECTRIC TECHNOLOGY FOR HIGH PERFORMANCE LSIs" Technica Survey, Densijyohoutsuusin Gakkaishi, March 1997, Vol. 80, No. 3, pp. 235-239					
	AAB	Yoshihanu KIMURA, "BN FIBER AS A MAIN TOPIC OF INORGANIC FIBERS", Department of Polymer Science and Engineering. Kyoto Institute of Technology, Sennitokogyo, 1996, Vol. 52, No. 8, pp. 341-345					
	AAC	R. T. PAINE, et al., "RECENT DEVELOPMENTS IN BORAZINE-BASED POLYMERS", American Chemical Society, 1994, Chapter 27, pp. 358-374					
	AAD	P. J. FAZEN, et al. "SYNTHESIS AND CERAMIC CONVERSION REACTIONS OF POLYBORAZYLENE", Polymer Preprints, 1991, Vol. 32, pp. 544-545					
	AAE	C.K. NARULA, et al., "SYNTHESIS OF BORON NITRIDE CERAMICS FROM POLY (BORAZINYLAMINE) PRECURSORS, J. Am. Chem. Soc., 1987, Vol. 109, pp. 5556-5557					
	AAF	Anne T. LYNCH, et al., "TRANSITION-METAL-PROMOTED REACTIONS OF BORON HYDRIDES. 12. <sup>1</sup> SYNTHESSES, POLYMERIZATIONS, AND CERAMIC CONVERSION REACTIONS OF B-ALKENYLBORAZINES ", J. Am. Chem. Soc., 1989, Vol. 111, pp. 6201-6209					
	AAG						
	AAH						
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	AAJ						
	AAK						
	AAL						
	AAM						
	AAN						
	AAO						
	AAP						
	AAQ						
Examiner						Date Considered	

\*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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09/19/2006  
09/31/01